

REMARKS

Applicants will address each of the Examiner's objections and rejections in the order in which they appear in the Office Action.

Claim Objections

In the Office Action, the Examiner objects to Claims 41, 45, 48, 51 and 54 for informalities therein.

Accordingly, Applicants have amended Claims 41, 45, 48, 51 and 54 to recite "said first semiconductor layer" and "said second and third semiconductor layers." Therefore, it is respectfully submitted that the Examiner's objections have been overcome, and it is requested that these objections be withdrawn.

Claim Rejections - 35 USC §103

The Examiner also has the following rejections under 35 USC §103(a):

- A. Claims 41, 44, 45, 48, 51, 54 and 57-61 are rejected as being unpatentable over Miyazaki et al. (US 5,804,878) in view of Yamazaki et al. (JP408055847A - for which Yamazaki et al. (US 5,970,384) serves as translation).
- B. Claims 42, 46, 49, 52 and 55 are rejected as being unpatentable over Miyazaki et al. and Yamazaki et al. further in view of Patent Document owned by Sharp KK (Publication NO. JP 11101974 A).
- C. Claims 43, 47, 50, 53 and 56 are rejected as being unpatentable over Miyazaki et al. and Yamazaki et al. further in view of Tang (US 5,684,365).
- D. Claims 62-66 are rejected as being unpatentable over Miyazaki et al. and Yamazaki et al. further in view of Yamazaki (US 5,784,073 - Yamazaki 2)

These rejections are respectfully traversed.

While Applicants respectfully traverse these rejections, in order to advance the prosecution of this application, Applicants have amended independent Claims 41, 45, 48, 51, and 54 to recite the concentration of oxygen, nitrogen, and hydrogen of the hydrogenated silicon oxynitride film as “the concentration of oxygen, nitrogen, and hydrogen throughout the thickness of said hydrogenated silicon oxynitride film are from 55 to 70 atomic%, from 0.1 to 6 atomic%, and from 0.1 to 3 atomic%, respectively” (emphasis added).

In the Office Action, the Examiner admits that Miyazaki does not teach the concentration of oxygen, nitrogen and hydrogen in the hydrogenated silicon oxynitride film but cites Yamazaki et al. as allegedly disclosing this feature.

However, Yamazaki et al. states that the nitrogen is concentrated at the boundary between silicon oxide and silicon (see e.g. col. 7, lns. 8-17 in Yamazaki et al.). Hence, it does not appear that Yamazaki et al. discloses the claimed nitrogen concentration throughout the thickness of hydrogenated silicon oxynitride film.

Accordingly, the Examiner’s combination of claims fails to disclose the device of amended independent Claims 41, 45, 48, 51 and 54 of the present application. Therefore, these independent claims and those claims dependent thereon are patentable over cited references, and, it is respectfully requested that the §103 rejections be withdrawn.

Double Patenting

The Examiner also objects to Claims 51-56 under 37 C.F.R. §1.75 and rejects these claims under 35 USC §101 and contends that Claim 51 is a substantial duplicate of Claim 45, Claim 52 is a substantial duplicate of Claim 46, Claim 53 is a substantial duplicate of Claim 47, Claim 54 is a

substantial duplicate of Claim 48, Claim 55 is a substantial duplicate of Claim 49, and Claim 56 is a substantial duplicate of Claim 50. Applicants respectfully disagree and traverse this rejection.

For example, Claim 45 recites “a first gate electrode adjacent to said first semiconductor layer with a gate insulating film interposed therebetween” (emphasis added). Such a claim limitation could read on both a top-gate type TFT and a bottom-gate type TFT. In contrast, Claim 51 recites “a first gate electrode over said first semiconductor layer with a gate insulating film interposed therebetween” (emphasis added), which would read on a top-gate type TFT. Hence, the scope of Claim 45 is not the same as the scope of Claim 51, and the claims are not substantial duplicates of one another (this would also apply to those claims dependent thereon). The same is true for independent Claims 48 and 54 (and those claims dependent thereon).

Accordingly, Claims 51-56 are not objectionable under 37 CFR 1.75, and it is respectfully requested that the double patenting rejection be withdrawn.

New Claims

Applicants are also adding new dependent Claims 67-71 herewith. These claims are allowable for at least the reasons discussed above for the independent claims. Accordingly, it is respectfully requested that these claims be entered and allowed.

Please charge our deposit account 50/1039 for any fee due for these new claims.

Conclusion


It is respectfully submitted that the present application is in a condition for allowance and should be allowed.

Please charge our Deposit Account No. 50-1039 for any additional fee due for this amendment.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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